ABSTRACT

The present invention provides adaptive procedures for managing radio resources to support voice and data traffic. This is done in both the call access control area. The method uses adaptive resource partitioning between voice and data as the basis for improving call access control. In particular a cost function is used to determine partitioning based on an operator's desired call blocking rates for both incoming voice and data traffic. Other examples of the cost function can be constructed using other quality of service measures for the carried services as mentioned earlier. In the dynamic burst allocation area, three methods are provided that make use of adaptive burst allocation, scheduled bursts and power borrowing between users as enhancements to the conventional methods used for integrated wide-band CDMA networks. The methods disclosed may used in isolation of each other as an enhancement to the current CDMA networks, or a combination of them can be implemented to provide a combined improvement in network performance. The first scheme for adaptive burst allocation tries to equalize the rate of information transmitted by different data users. The second scheme tries to adaptively vary the burst rate pool size as network interference varies. The third scheme tries to link between the quality of service (QoS) requirements (e.g. delays) and burst rate.